

Date: Sat, 19 Feb 94 04:30:26 PST
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #39
To: Ham-Ant

Ham-Ant Digest Sat, 19 Feb 94 Volume 94 : Issue 39

Today's Topics:

 6 Mtr Loop Skywire??
 Antenna gain: dB,dBi,dBic ??
 folded dipole dimensions

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Problems you can't solve otherwise to brian@ucsd.edu.

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Date: Thu, 17 Feb 1994 19:24:20 GMT
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!europa.eng.gtefsd.com!
library.ucla.edu!csulb.edu!csus.edu!netcom.com!henrys@network.ucsd.edu
Subject: 6 Mtr Loop Skywire??
To: ham-ant@ucsd.edu

I want to construct a horizontally polarized, omni directional antenna
for six meters.

The big wheel for six meters is a consideration but it is fairly
complicated to build.

How about a Loop Skywire for six meters?

The Loop Skywire is simply a square loop antenna erected horizontal
to the earth and fed with 50 Ohm coax.

The perimeter of the loop is $L = 1005 / f$, where f is the frequency. For
six meters, f would be 50.25 and L would be 20 feet. Each side of
the loop would be 5 feet.

At 5 feet on a side, a simple loop could be constructed using PVC or something similar. It would even be feasible to stack the loops for more gain.

Since most of the articles that I have read describe Loop Skywires for 80 or 40 meters, I am not sure what the characteristics would be on six meters.

Would anybody care to comment? What do your antenna modeling programs say?

Thanks,

Smitty, NA5K

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| Henry B. Smith - NA5K                               henrys@netcom.com |
| Dallas, Texas                                         |
|                                                       |
|           "I'm not sure I understand everything that I know" |
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Date: 18 Feb 1994 09:04:27 -0600
From: agate!howland.reston.ans.net!cs.utexas.edu!not-for-mail@network.ucsd.edu
Subject: Antenna gain: dB,dBi,dBic ??
To: ham-ant@ucsd.edu

Hello,

Can anyone help me. I am trying to interpret various antenna gain specs for a variety of circularly polarized antennas. The specs usually use dB, dBi or dBic.

What is the definition of these units and how are they related to each other ?? Does dBi mean the gain relative to an isotropic radiator ? Does dBic mean the gain relative to an isotropic circularly polarized radiator. Can one meaningfully convert from one to the other ?

For instance, a 4 ft. parabolic dish is spec'd at 24 dB. Should this be dBi ? I have some information on a patch antenna which has a gain of 16-17 dBic. How do I compare the two gains ??

Any help or pointers to reference books which discuss this would be appreciated.

Thanks,
Jim

Date: 18 Feb 94 15:19:09 GMT
From: news-mail-gateway@ucsd.edu
Subject: folded dipole dimensions
To: ham-ant@ucsd.edu

The ARRL handbook shows the folded dipole has a 300 ohm feed point impedance, independent of conductor diameter and spacing, as long as the two conductors are equal diameter.

Other literature shows the full wave square loop to have approx. 100 ohm feed point impedance.

The first question is this: How far apart can the conductors of a folded dipole be spaced before the antenna looks electrically more like a full wave rectangle loop, rather than a folded dipole?

The handbook also states that the folded dipole, compared to the regular 75 ohm dipole, has greater bandwidth due to the two parallel conductor arrangement.

The second question is this: Does increasing the spacing of the parallel conductors in a folded dipole increase the bandwidth? If so, what is the optimum spacing for maintaining an approx. 300 ohm feed and maximizing the bandwidth in a folded dipole arrangement?

Please answer or discuss on the net.

--Clay

End of Ham-Ant Digest V94 #39

